

# ***53<sup>rd</sup> Weather Reconnaissance Squadron Operations Review/Preview***



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TCORF Meeting 2022***

This brief is **UNCLASSIFIED**





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# ***2021 HURRICANE SEASON RECAP***



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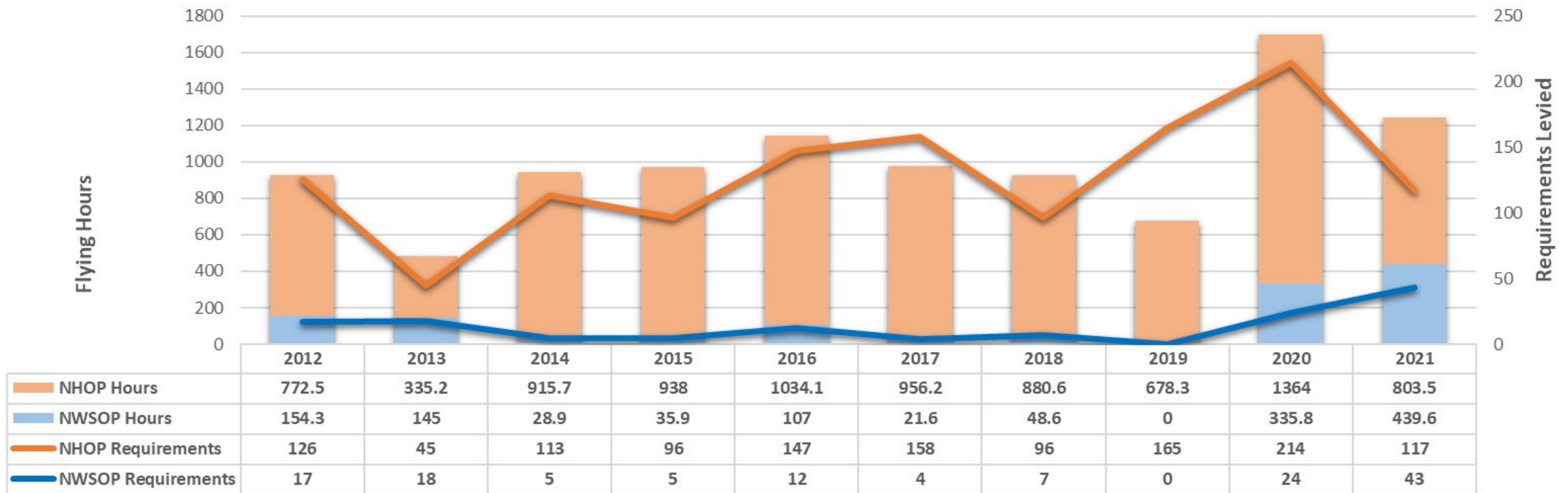




# WC-130J Utilization Over Time

*While NHOP utilization was the 6<sup>th</sup> highest flying hours over the last 10 years, overall utilization was second highest due to increased NWSOP requirements*

Weather Reconnaissance DSCA Flying Hours and Requirements



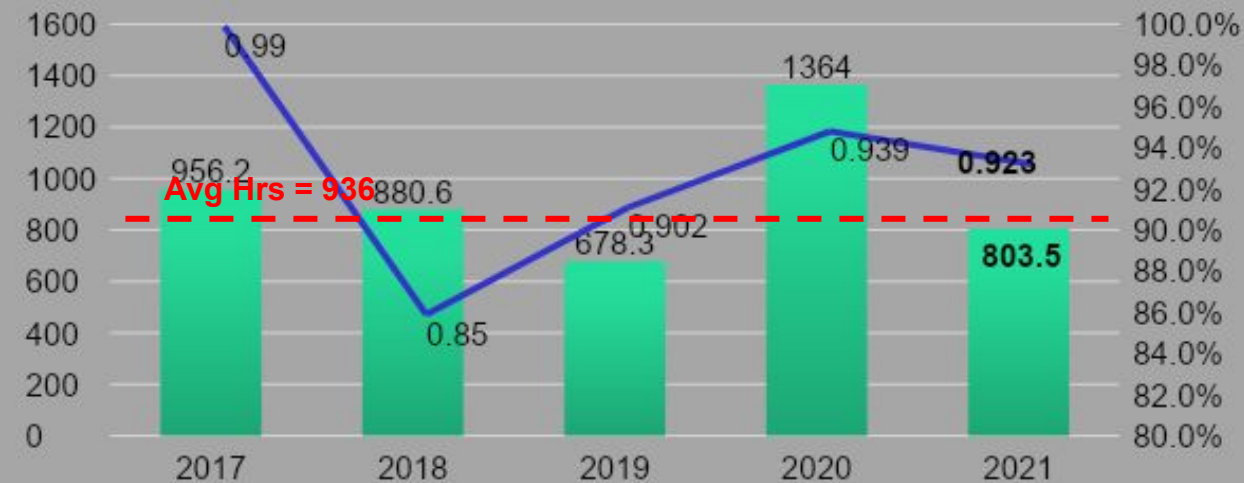
# 2021 Hurricane Season: Operational Statistics



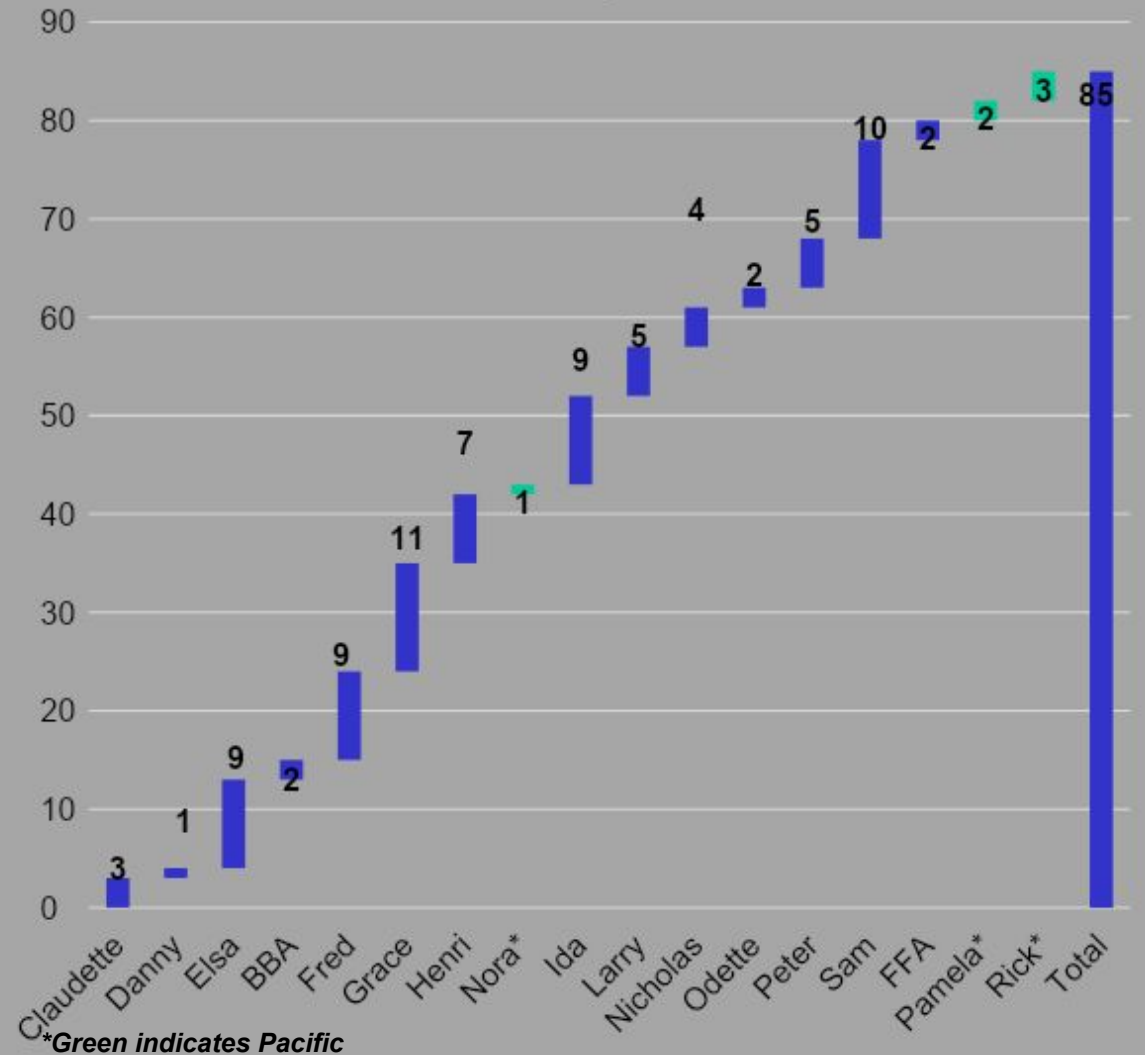
## Tasked Mission Summary



## Flight Hours & Tasking Reliability



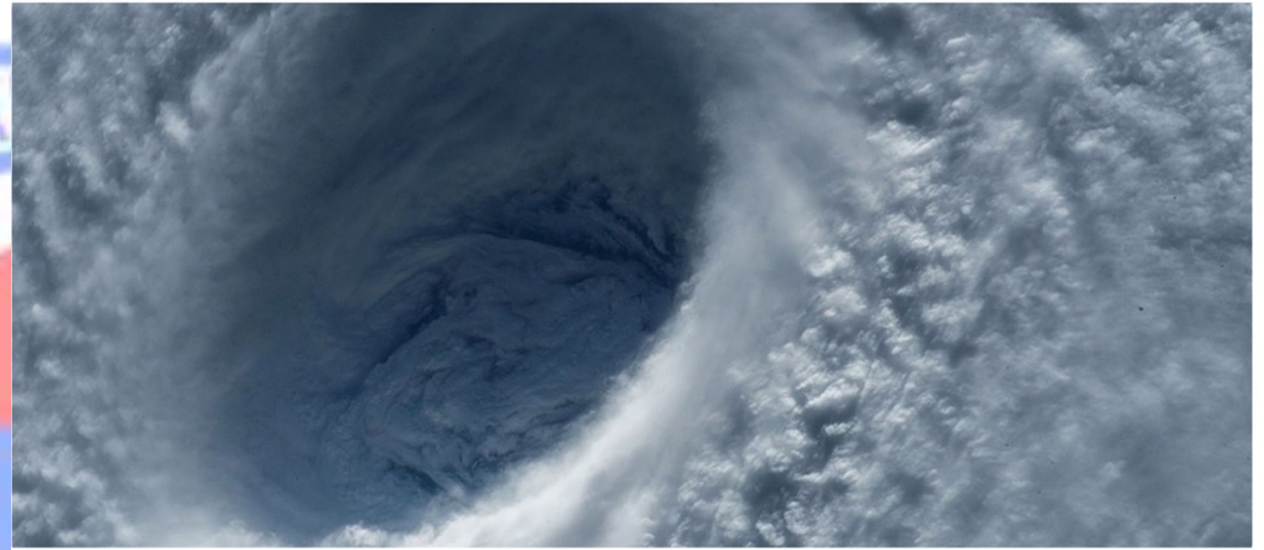
## Missions by Storm



# 2021 Hurricane Season: Challenges



- **9 Missed Fixes**
  - 4 – Mx Issues
  - 2 – ARWO Pallet
  - 1 – Airspace issues
  - 1 – Weather
  - 1 – Personnel
- **Corrective Actions**



## Limitation

## Actions

MX Issues

Worked with AFRC to adjust parts ordering priority. Identifying and working with C-130 engineering team to identify quick fixes.

ARWO Pallet

Two tiger teams of with software engineers worked with 403d to identify and resolve issues.





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# ***2022 HURRICANE SEASON PREVIEW***

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# 2022 Hurricane Season: Personnel & Equipment

FY23

A M J J A S O N D J F M

GBS drive bays  
GBS Software v19.1

New Monitors  
ARWO Software v19.1

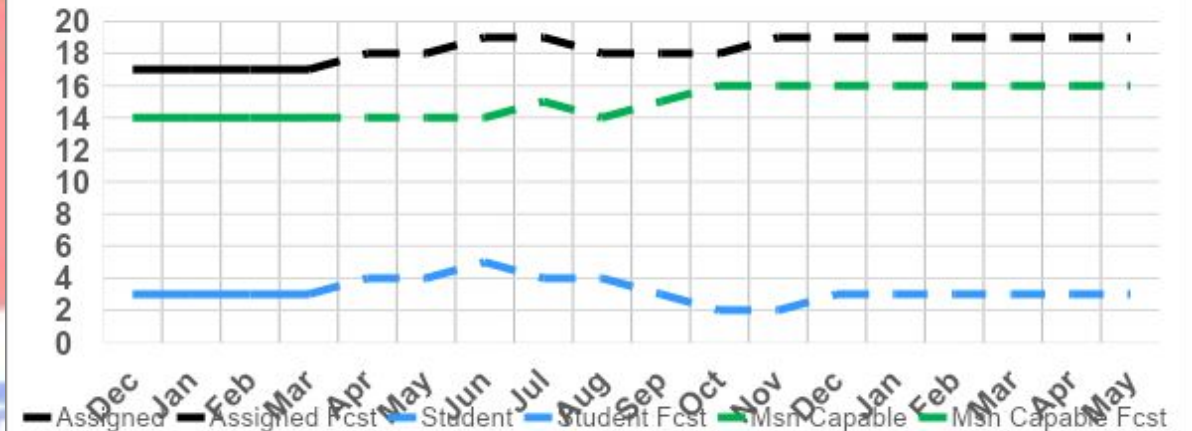
ARWO Static  
Trainer  
ARWO Hard Drives  
Drop Computer

New SATCOM Radio

## • Expected Challenges:

- Personnel
  - Experience level
  - Gaps
- Communications
- Hygrometers – poor performance

aRWO Staffing Follow up (Trends/Fcst)



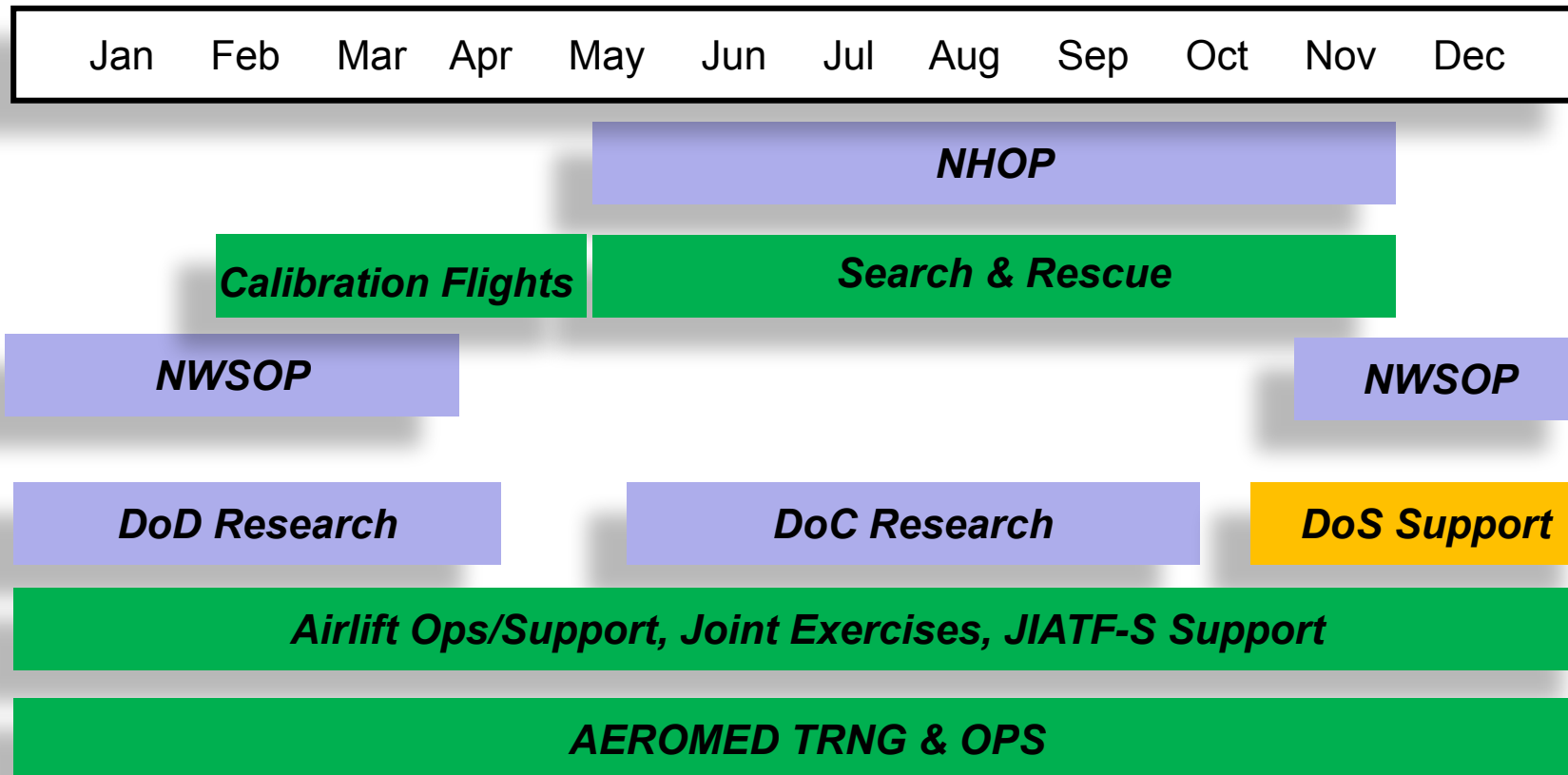


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# Mission Execution

*Flying operations are ongoing throughout the year*







# WC-130J Systems Overview



**US Air Force Inventory:** 10 aircraft at Keesler AFB  
**Current Sensing Capabilities:**

Sfc Winds	FL Dew Pt	Storm Structure	Vertical Profiling	Ocean Sensing
RD-41 Sonde SFMR ARWO	Chilled Mirror Hyg.	APN-241 Acft Radar	RD-41 Sonde	AXBT

## Key Projects:

- 1. Broadband Access:** Increase our data flow
- 2. Doppler Radar:** Higher resolution data
- 3. Sensor Pods:** Custom data to meet user need

## Current technologies being evaluated

Upgraded Radios	Wideband	AXCP/AXCTD	EM-APEX
SFMR Processors	BUFR	WSRA	Dual Pol Radar
Telemetry Chassis	Nose Radar	LIDAR	sUAS
nRD-41	AXBT Receiver	IWRAP	
AXBT Tube	Hygrometers		
VHF 3			
ARO			

## Science and Technology Partnerships:

NHC	NRL	Scripps Inst.	EMC	USNA
NCAR	HRD	NAVOCEANO	AFRL	

# 2022 Hurricane Season: Upcoming Events

- **Caribbean Hurricane Awareness Tour (CHAT):**  
*19-22 April*
  - St. Thomas
  - St. Croix
  - Puerto Rico
- **Hurricane Awareness Tour: 12-16 May**
  - Washington D.C.
  - JFK
- **ICAMS: Working Group - Aerial Reconnaissance Equipment**
  - Winter 22/23







# ***Questions***

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# *Spares (Appendix)*



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